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Journal club

Gefitinib as first-line treatment in advanced NSCLC with mutated EGFR

Non-small cell lung cancer (NSCLC) is a leading cause of cancer deaths. Standard cytotoxic chemotherapy has a response rate of only 20—35% and median survival among patients with advanced NSCLC is between 10 and 12 months. Gefitinib, an epidermal growth factor receptor (EGFR) tyrosine kinase inhibitor, is used in patients with NSCLC with sensitive mutations of EGFR, and this study sought to compare the efficacy and safety of gefitinib with standard chemotherapy.

Two hundred and thirty patients with metastatic NSCLC and positive EGFR mutations who had previously received no chemotherapy were randomly assigned to receive either gefitinib or carboplatin-paclitaxel. Interim analysis of the first 200 patients showed that median progression-free survival was significantly longer in the gefitinib group than in the standard chemotherapy group. Other efficacy outcome measures included a higher response rate and better median overall survival in the gefitinib group.

While the grouped analysis for significant toxic effects (as graded by the National Cancer Institute Common Terminology Criteria) demonstrated a superior toxicity profile for gefitinib compared with carboplatin-paclitaxel, striking differences were evident. Neutropenia, anaemia and thrombocytopenia were most commonly observed with traditional chemotherapy, as were arthralgia and sensory neuropathy. In contrast, rashes, raised aminotransferase levels and sensory neuropathy were statistically more likely to occur among those receiving gefitnib, as was pneumonitis, with one death being observed from interstitial lung disease in this trial arm.

This study demonstrates a relative superiority in terms of progression-free survival for gefitinib compared with standard chemotherapy for patients with advanced NSCLC, provided that they are selected on the basis of sensitive EGFR mutations.

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